Seat No.

कुंतल - 063

CHEMISTRY PAPER-II (NEW) (23136) CHE - 232
Organic Chemistry & Analytical Chemistry - I

P. Pages : 3

Time : Two Hours

Max. Marks : 40

Instructions to Candidates :
1. Do not write anything on question paper except Seat No.
2. Answersheet should be written with blue ink only. Graph or diagram should be drawn with the same pen being used for writing paper or black HB pencil.
3. Students should note, no supplement will be provided.
4. All questions are compulsory.
5. Figures to the right indicates full marks.
6. Use of logarithmic table and calculator is allowed.

1. A) Choose the correct answer of the following. 4

   i) How many ml of 1M HCl solution is required to neutralise 10 ml of 1M NaOH.
      a) 2.5 ml
      b) 5.0 ml
      c) 10.0 ml
      d) 20.0 ml

   ii) What is mean by accuracy ?
      a) It is degree of agreements between measured value and true value.
      b) It is degree of agreements between repeated number of measurements.
      c) It is the ratio of measured value and true value.
      d) Overall quality of data.

   iii) .... is the correct name of the compound
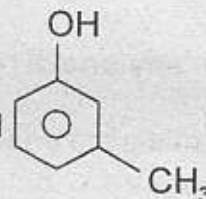
      a) Catechol
      b) M-cresol
      c) Resorcinol
      d) Anisole

   iv) The correct priority sequence for the following groups is -
      a) $D > CH_3 > C_2H_5 > H$
      b) $H_5C_2 > CH_3 > H > D$
      c) $CH_3 > C_2H_5 > D > H$
      d) $H_5C_2 > CH_3 > D > H$

1

B) Attempt **any two** of the following.   4

    i) Name the indicators used in precipitation titrations.

    ii) Define the term
       a) equivalence point
       b) neutralization point

    iii) How will you convert chlorobenzene to phenol.

    iv) Define plane of symmetry.
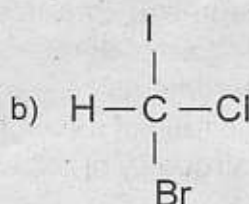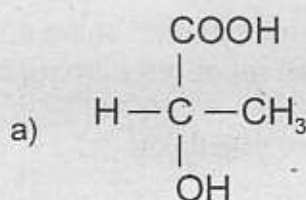
2.   Attempt **any two** of the following.   8

    i) Discuss qualitative and quantitative analysis.

    ii) Derive Henderson-Hasselbalch equation for pH of acid base indicators.

    iii) What is halogenation of benzene ? Give its mechanism.

3. A) Answer **any one** of the following.   4

    i) Explain the standardisation of $AgNO_3$ solution by Mohr's method.

    ii) Assign R or S configuration for the following :

$$
\text{a)} \quad
\begin{array}{c}
COOH \\
| \\
H-C-CH_3 \\
| \\
OH
\end{array}
\qquad\qquad
\text{b)} \quad
\begin{array}{c}
I \\
| \\
H-C-Cl \\
| \\
Br
\end{array}
$$

B) Answer **any one** of the following.   4

    i) Explain the effect of electron donating substituent on aromatic substitution.

    ii) What precautions are to be taken during sampling process.

4.   Attempt **any two** of the following.   8

    i) How will you convert benzoic acid to -
       a) benzamide   b) benzyl alcohol.

    ii)   Write note on Fries rearrangement.

    iii) Explain the nature of titration curve for strong acid with weak base.

5.   A)   Attempt **any one** of the following.   6

        i)   Discuss the conformation of n-butane using energy profile diagram.

        ii)   Explain the principle of precipitation titration. Discuss estimation of chloride by Fajan's method.

    B)   Find number of significant figures in the following.   2

        a)   0.0654   b) 6.023×10^5

****